

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>AL/10701.500</b>	<b>FOR FURTHER ACTION</b> <small>see Form PCT/ISA/220 as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/IB2004/000899</b>	International filing date (day/month/year) <b>25/03/2004</b>	(Earliest) Priority Date (day/month/year) <b>27/03/2003</b>
Applicant  <b>MEDICURE, INC.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 10 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☒ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regards to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☒ none of the figures is to be published with the abstract.

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB2004/000899

## Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:  
**Although claim 1 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.**
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:  
**1 (partially)**

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claim: 1 (partially)

Use of pyridoxal-5'-phosphate for modulating cell death.  
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2. claim: 1 (partially)

Use of pyridoxic acid for modulating cell death.  
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3. claim: 1 (partially)

Use of pyridoxal for modulating cell death.  
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4. claim: 1 (partially)

Use of pyridoxine for modulating cell death.  
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5. claim: 1 (partially)

Use of pyridoxamine for modulating cell death.  
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6. claims: 2-10

Use of a compound of the formula of claim 2 for modulating cell death.  
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7. claims: 11-25

Use of a compound of the formula of claim 11 for modulating cell death.  
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8. claims: 26-33

Use of a compound of the formula of claim 26 for modulating cell death.  
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9. claims: 34-40

Use of a compound of the formula of claim 34 for modulating cell death.  
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10. claims: 41-49

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Use of a compound of the formula of claim 49 for modulating  
cell death.

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## INT ) NATIONAL SEARCH REPORT

International Application No

PCT/IB2004/000899

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K31/4415 A61K31/4355 A61K31/675 A61P39/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/57863 A (UNIV MANITOBA ; MEDICURE INC (CA)) 5 October 2000 (2000-10-05) abstract; claims 9-14; tables 10-13 -----	1
X	WO 01/03682 A (MEDICURE INC) 18 January 2001 (2001-01-18) abstract; claims 1-72; examples 1-10 -----	1
X	EP 0 282 696 A (SPECK ULRICH) 21 September 1988 (1988-09-21) abstract column 4, line 45 - column 6, line 29; claims 1-6 ----- -/--	1

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&amp;" document member of the same patent family

Date of the actual completion of the international search

5 August 2004

Date of mailing of the international search report

29. 09. 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

A. Jakobs

## INT NATIONAL SEARCH REPORT

International Application No

PCT/IB2004/000899

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 339 085 B1 (HAQUE WASIMUL ET AL) 15 January 2002 (2002-01-15) abstract column 4, line 53 - column 5, line 56 column 6, line 36 - column 10, line 32 column 11, line 48 - column 12, line 2; claims 31,56; examples 2-9 -----	1
X	WO 98/32429 A (GALLAGHER JAMES ANTHONY ; UNIV LIVERPOOL (GB); BOWLER WAYNE BARRY (GB)) 30 July 1998 (1998-07-30) abstract; claims 1,6,12 -----	1
X	DATABASE WPI Section Ch, Week 199425 Derwent Publications Ltd., London, GB; Class B05, AN 1994-207332 XP002291398 & SU 1 808 326 A1 (RYAZAN MED INST) 15 April 1993 (1993-04-15) abstract -----	1
X	WO 01/64692 A (MEDICURE INTERNAT INC) 7 September 2001 (2001-09-07) abstract page 1, line 29 - page 5, line 9; claims 40,99,160,219; examples 1-28 -----	1
X	WO 00/53606 A (MEDICURE INC) 14 September 2000 (2000-09-14) abstract page 3, line 11 - page 5, line 30 page 8, lines 1-4 page 18, lines 2-13; claims 50,107; examples 1-9 -----	1
X	GENG M Y ET AL: "Protective effects of pyridoxal phosphate against glucose deprivation-induced damage in cultured hippocampal neurons." JOURNAL OF NEUROCHEMISTRY. JUN 1997, vol. 68, no. 6, June 1997 (1997-06), pages 2500-2506, XP001197371 ISSN: 0022-3042 the whole document ----- -/--	1

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE CHEMABS [Online]  CHEMICAL ABSTRACTS SERVICE, COLUMBUS,  OHIO, US;  SAWAKI, SHUNJI ET AL: "Effect of pyridoxal  phosphate administration on hepatitis C  virus RNA in patients with hepatitis type  C"  XP002291396  retrieved from STN  Database accession no. 1997:732628  abstract  &amp; IGAKU TO SEIBUTSUGAKU , 135(4), 149-151  CODEN: IGSBAL; ISSN: 0019-1604, 1997,  XP008033478</p> <p>-----</p>	1
X	<p>DATABASE CHEMABS [Online]  CHEMICAL ABSTRACTS SERVICE, COLUMBUS,  OHIO, US;  SAWAKI, SHUNJI ET AL: "Effect of pyridoxal  phosphate on the CD4, CD8 T cell and  HCV-RNA in patients with hepatitis type C"  XP002291397  retrieved from STN  Database accession no. 1998:406378  abstract  &amp; IGAKU TO SEIBUTSUGAKU , 136(5), 143-145  CODEN: IGSBAL; ISSN: 0019-1604, 1998,  XP008033477</p> <p>-----</p>	1
X	<p>DATABASE WPI  Section Ch, Week 199748  Derwent Publications Ltd., London, GB;  Class B03, AN 1997-516155  XP002291399  &amp; JP 09 221425 A (TAIHO PHARM CO LTD)  26 August 1997 (1997-08-26)  abstract</p> <p>-----</p>	1
X	<p>YAMASHIMA, T. ET AL: "Neuroprotective  effects of pyridoxal phosphate and  pyridoxal against ischemia in monkeys"  NUTRITIONAL NEUROSCIENCE , 4(5), 389-397  CODEN: NNINFE; ISSN: 1028-415X, 2001,  XP008033483  abstract</p> <p>-----</p>	1
X	<p>EP 0 379 936 A (VESTA MED PTY LTD)  1 August 1990 (1990-08-01)  abstract  page 3, lines 44-56  page 9, lines 45-55  page 10, line 26 - page 12, line 45; claim  9; example 4</p> <p>-----</p> <p style="text-align: center;">-/--</p>	1

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/000899

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ISHAQUE A ET AL: "Role of vitamins in determining apoptosis and extent of suppression by bcl-2 during hybridoma cell culture"</p> <p>APOPTOSIS, vol. 7, no. 3, June 2002 (2002-06), pages 231-239, XP008033442 ISSN: 1360-8185 the whole document</p> <p>-----</p>	1
P,X	<p>NAMAZI, M. R.: "Pyridoxal 5'-phosphate as a novel weapon against autoimmunity and transplant rejection"</p> <p>FASEB JOURNAL , 17(15), 2184-2186 CODEN: FAJOEC; ISSN: 0892-6638, 2003, XP008033485 the whole document</p> <p>-----</p>	1

# INTL NATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/000899

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International Application No

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